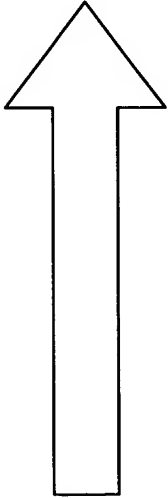


*PRIOR ART*  
*FIG. 1A*

Block 0(Old block)

Page0
Page1
Page2
Page3
Page4
• • •
PageN-1
PageN

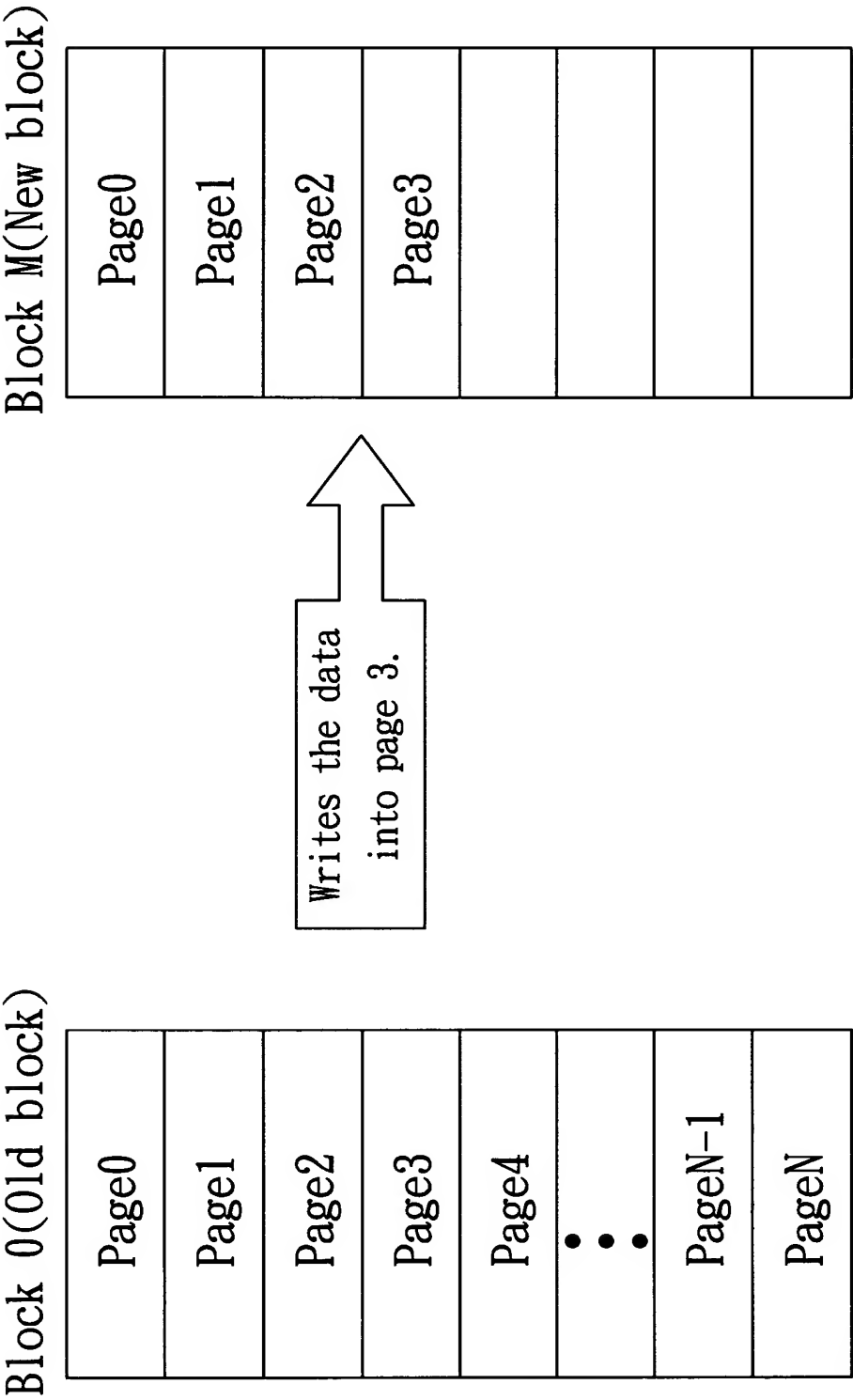


The conventional controller selects one new block, the data above page 3 is transferred from the corresponding page from the old block to the new block.

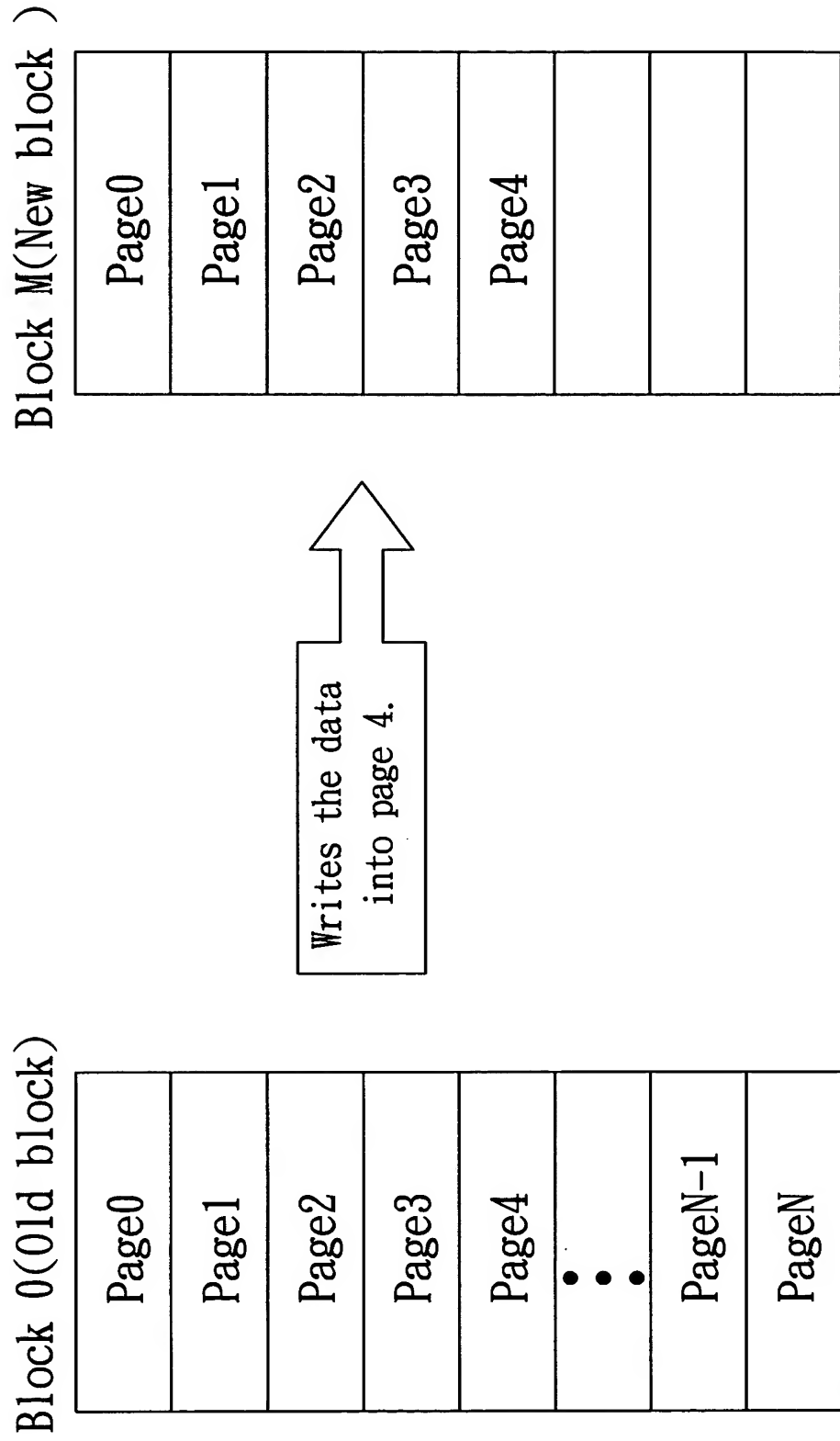
Block M(New block)

Page0
Page1
Page2

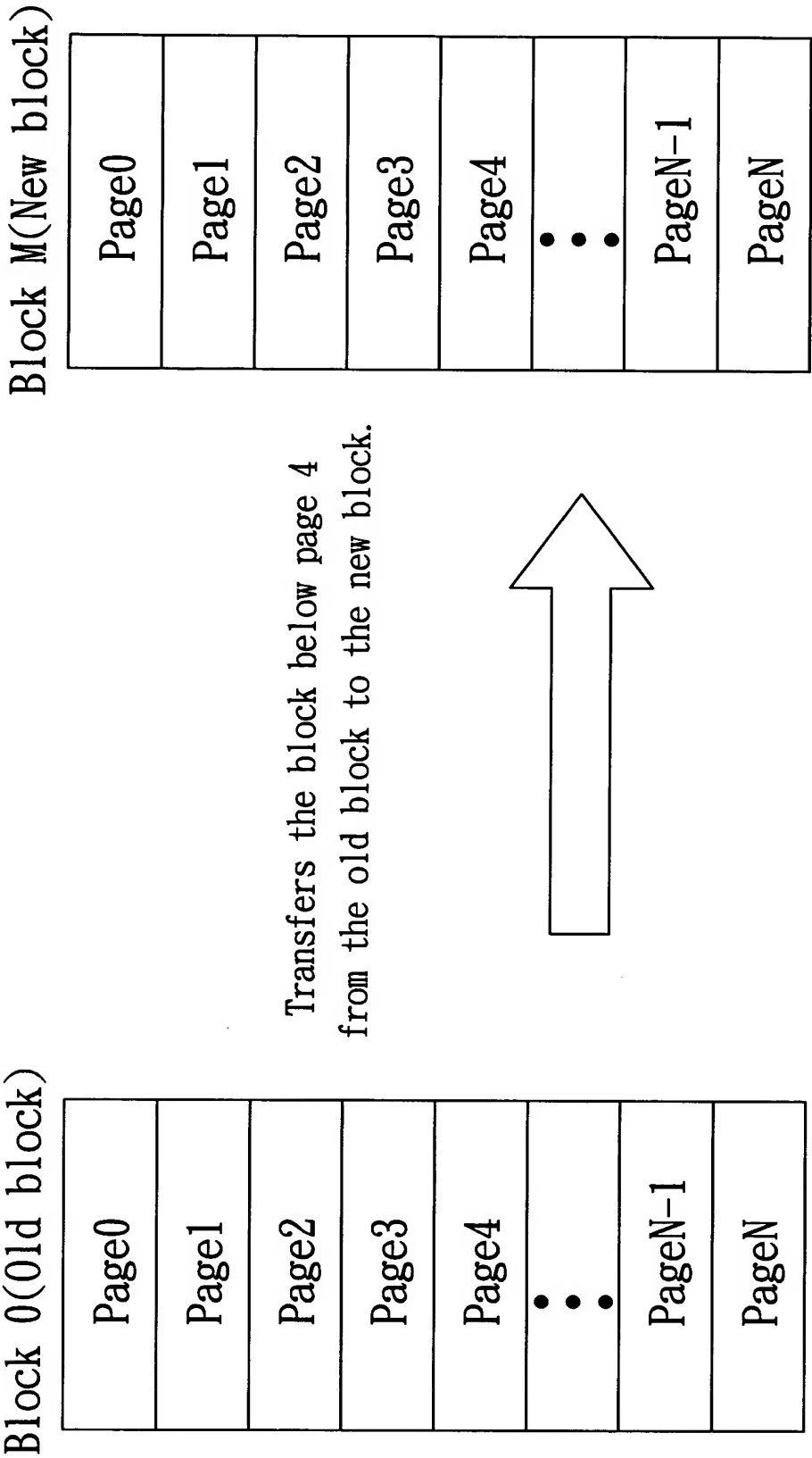
*PRIOR ART*  
*FIG. 1B*



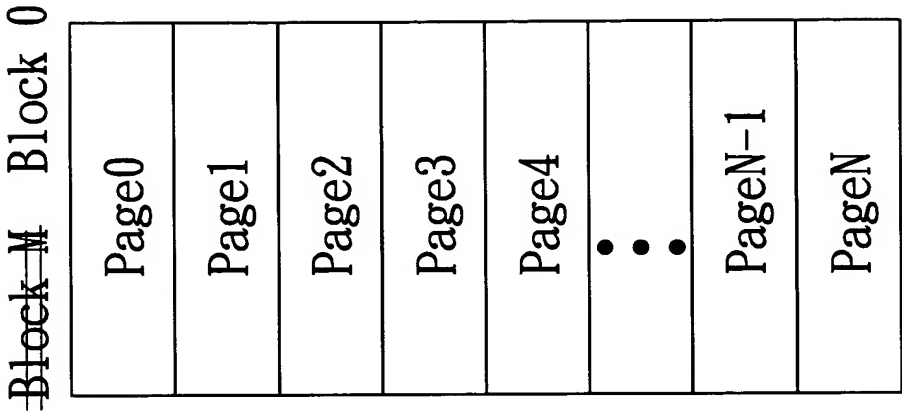
*PRIOR ART*  
*FIG. 1C*



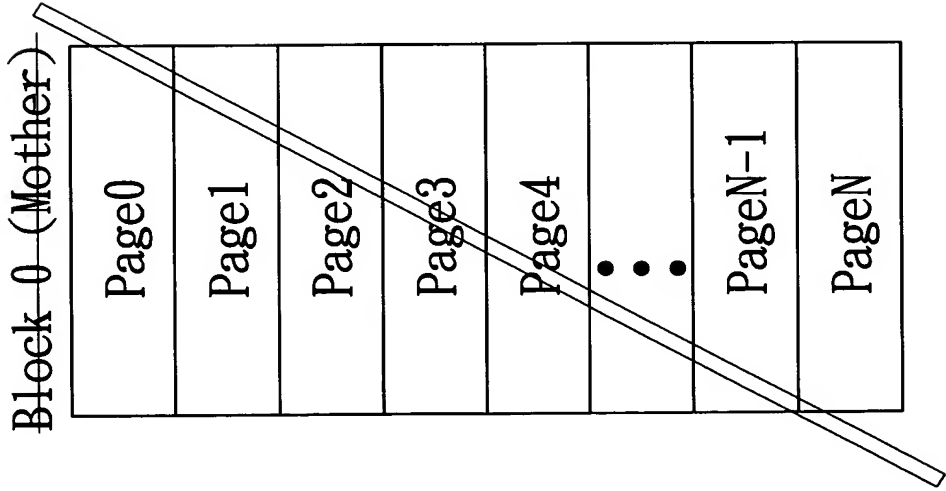
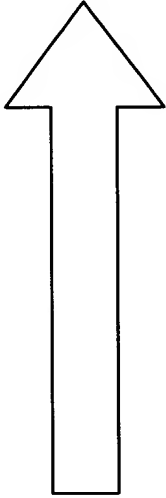
*PRIOR ART*  
*FIG. 1D*



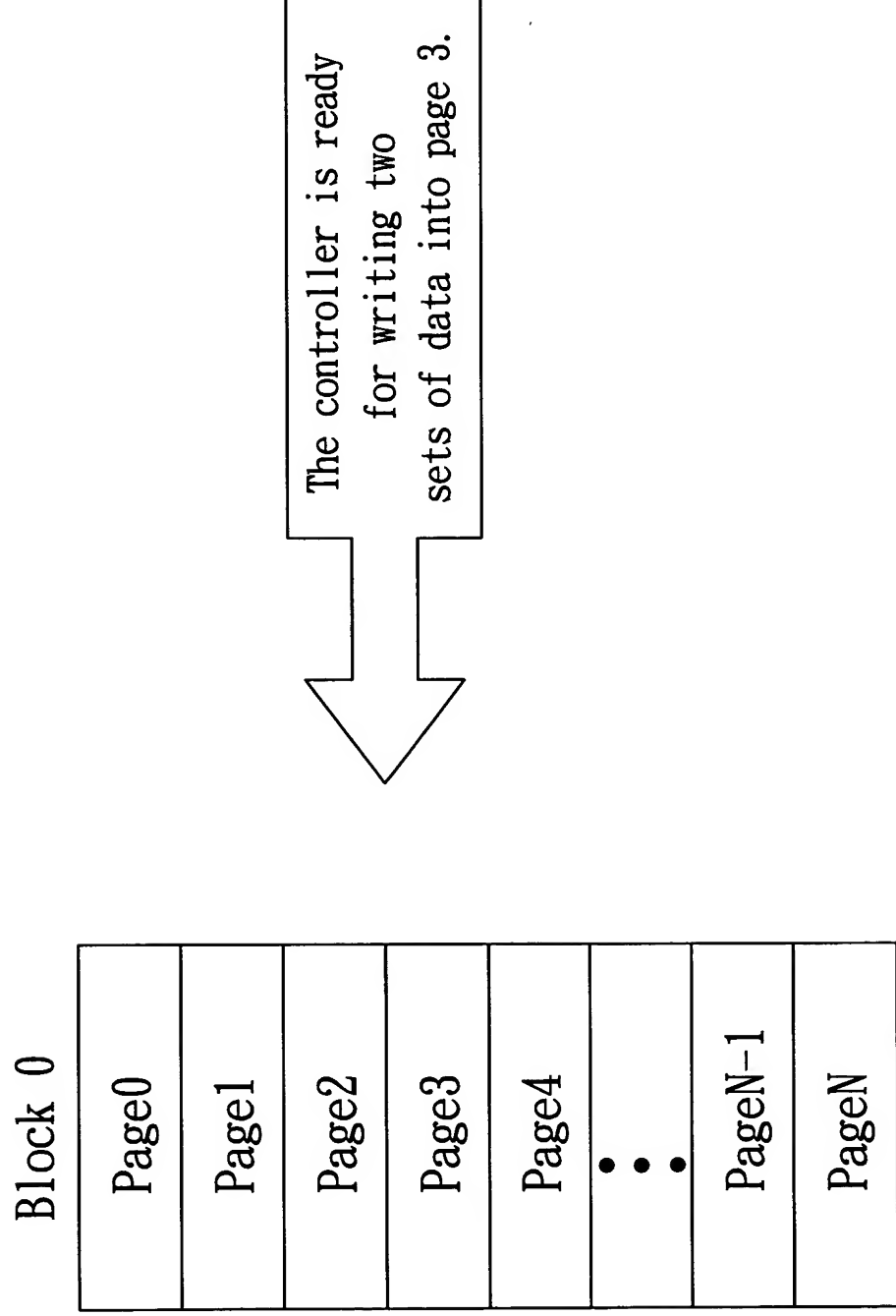
*PRIOR ART*  
*FIG. 1E*



Erases the old block and allows the new block replace the old block 0.



*PRIOR ART*  
*FIG. 1F*



*FIG. 2A*

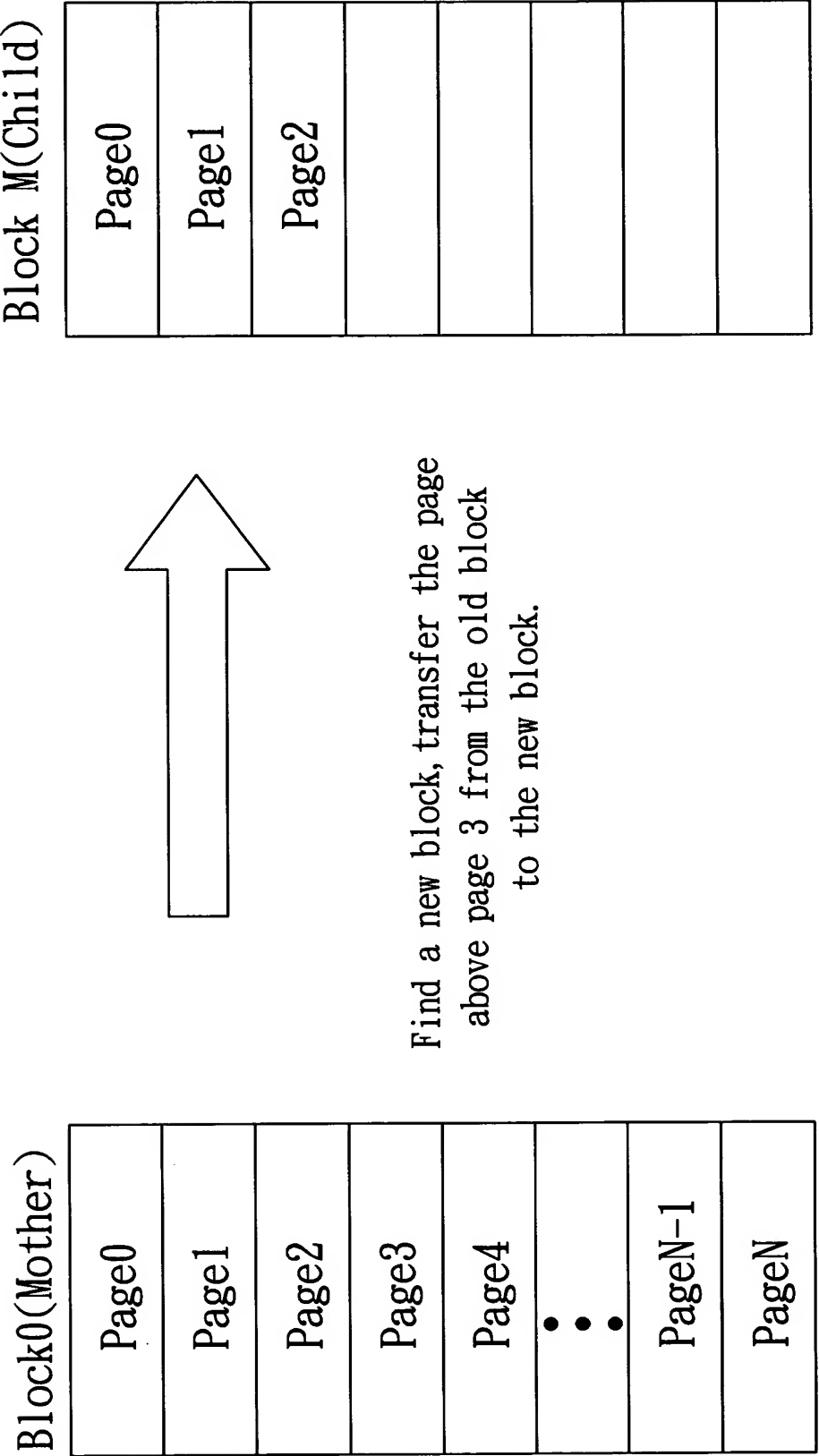
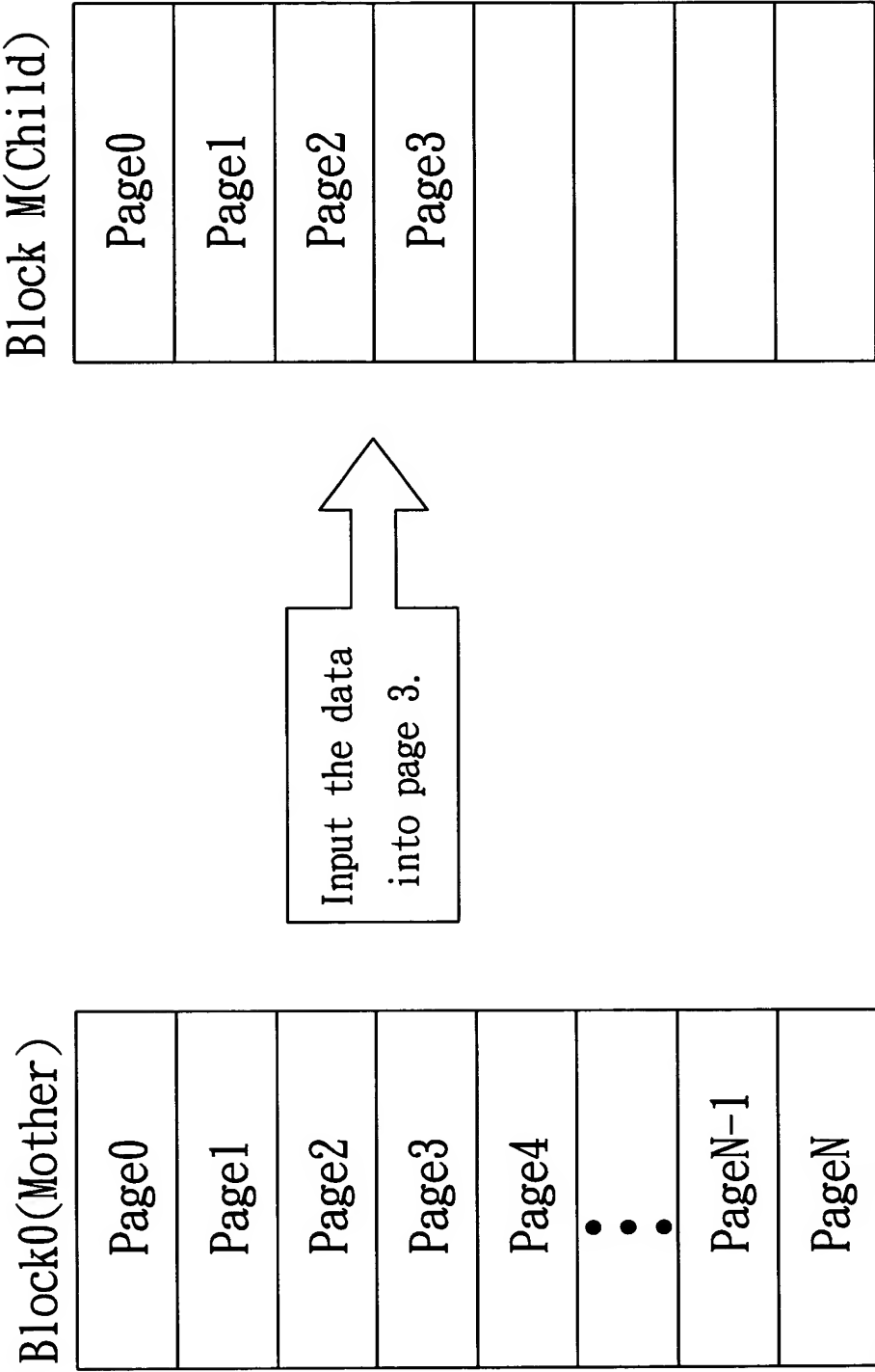
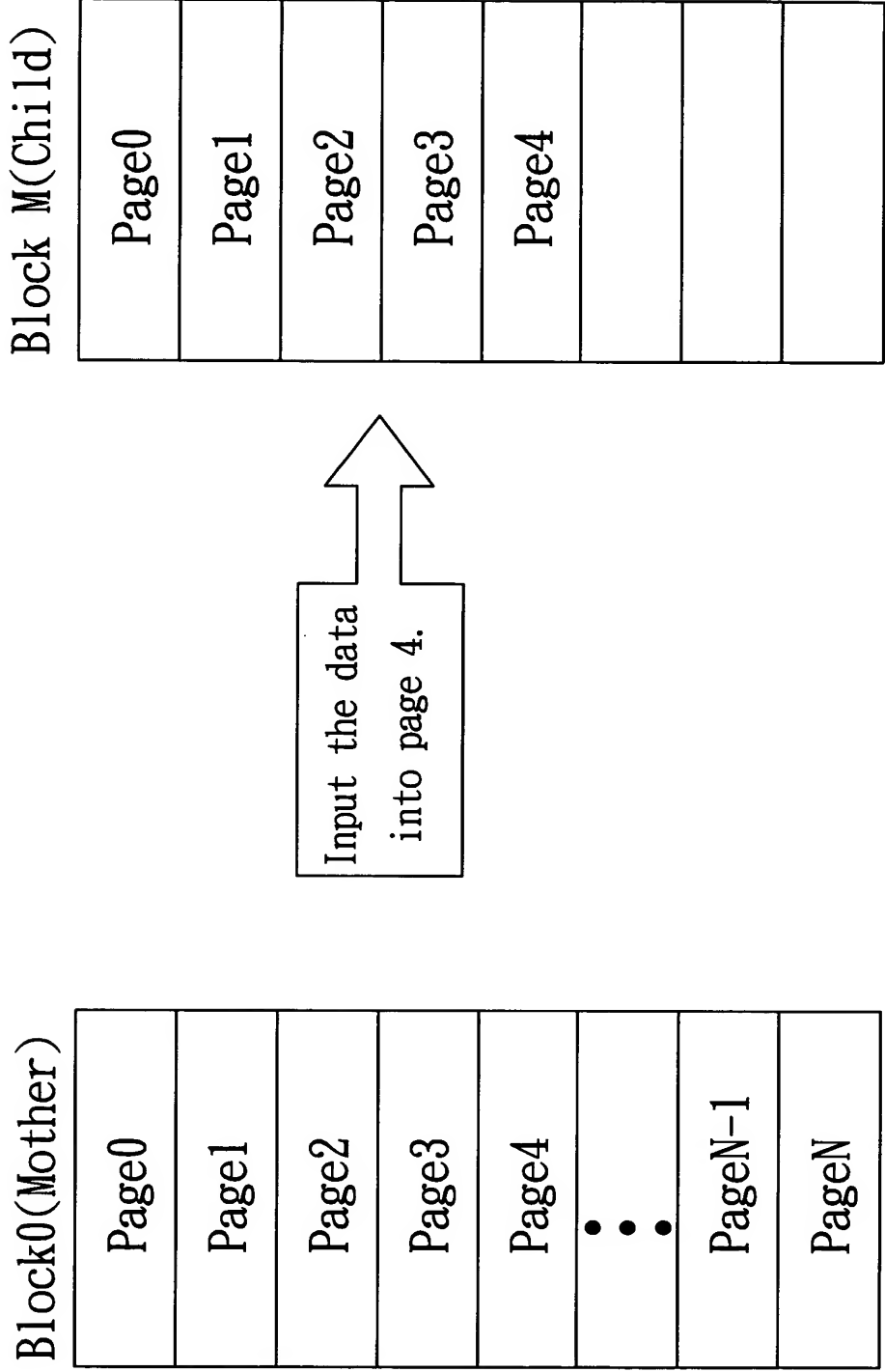


FIG.2B





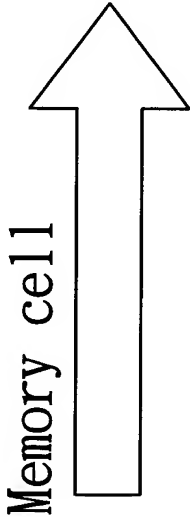
*FIG.2C*



*FIG. 2D*

Block0(Mother)
Page0
Page1
Page2
Page3
Page4
•
PageN-1
PageN

Mother block and child block standby  
for the next action into the  
flash memory cell.



Block M(Child)
Page0
Page1
Page2
Page3
Page4

FIG.2E

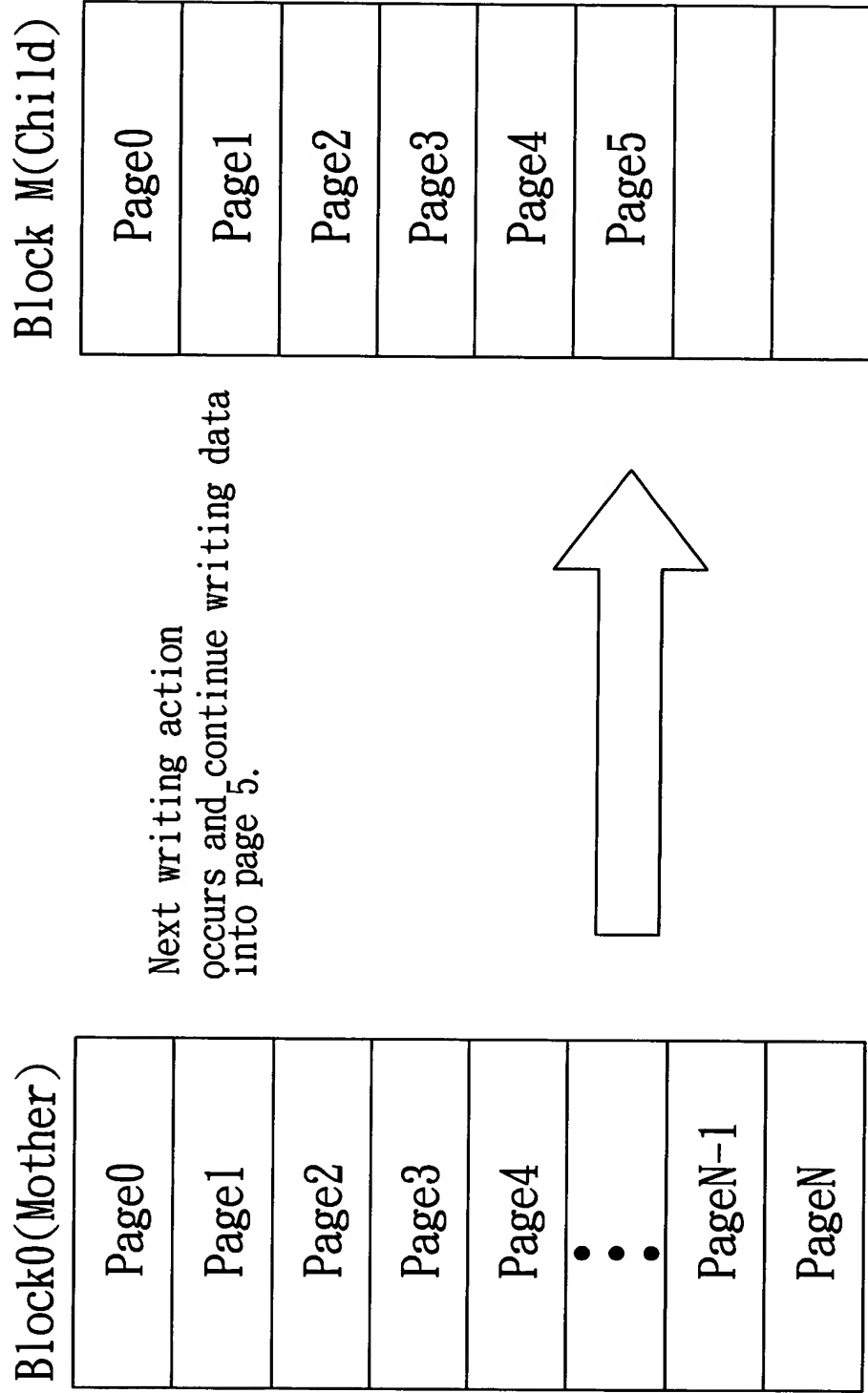
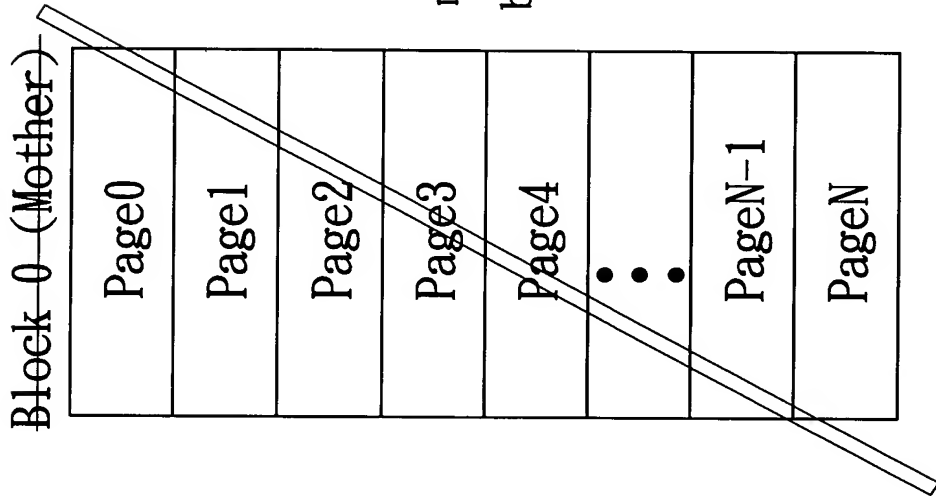
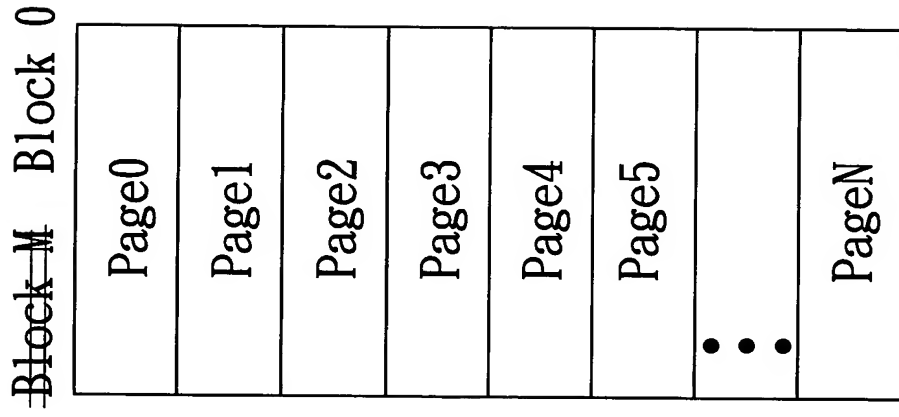
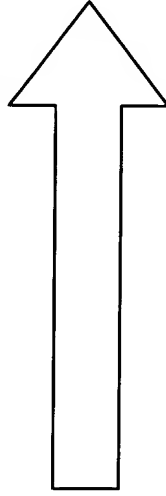


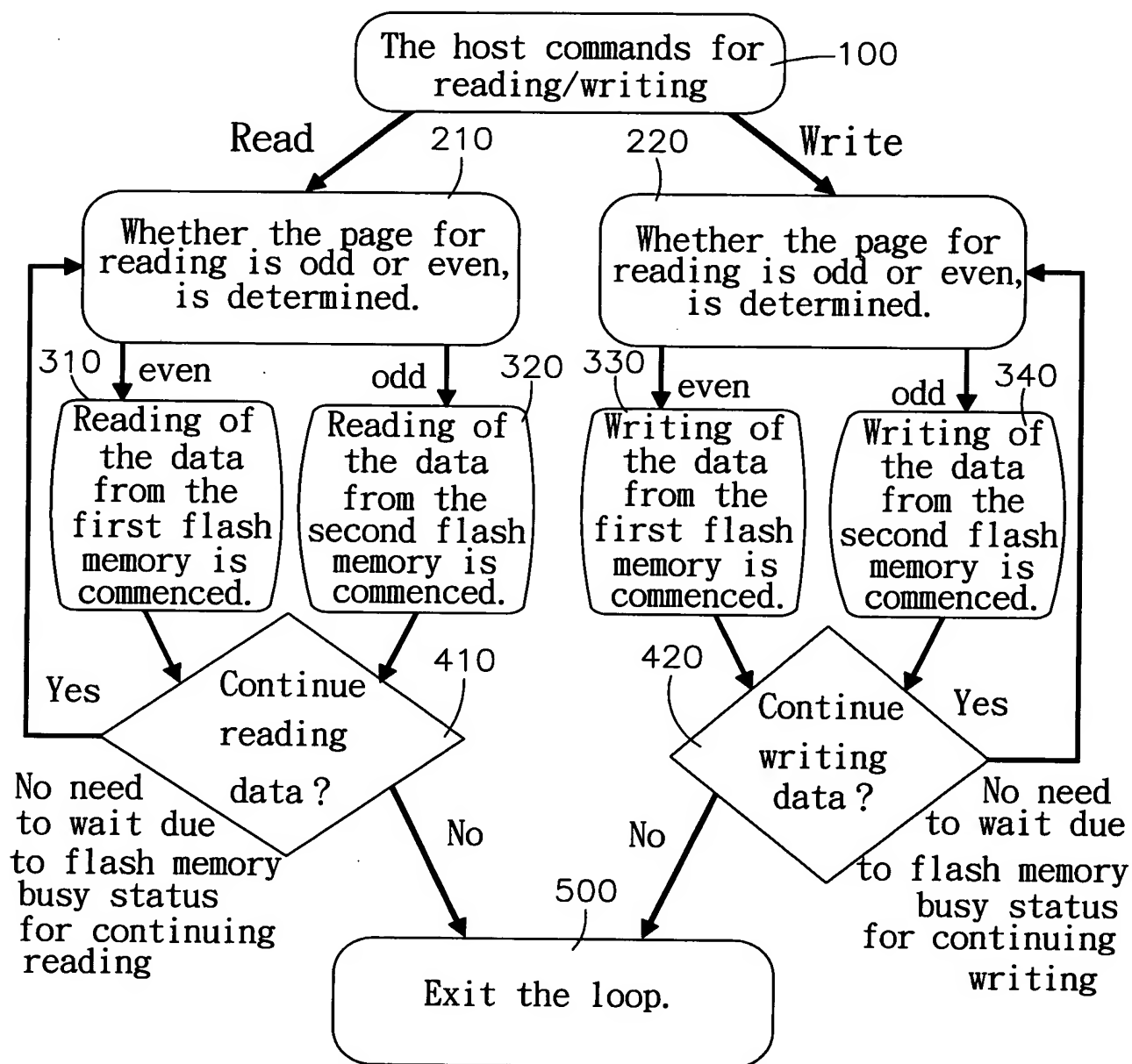
FIG.2F



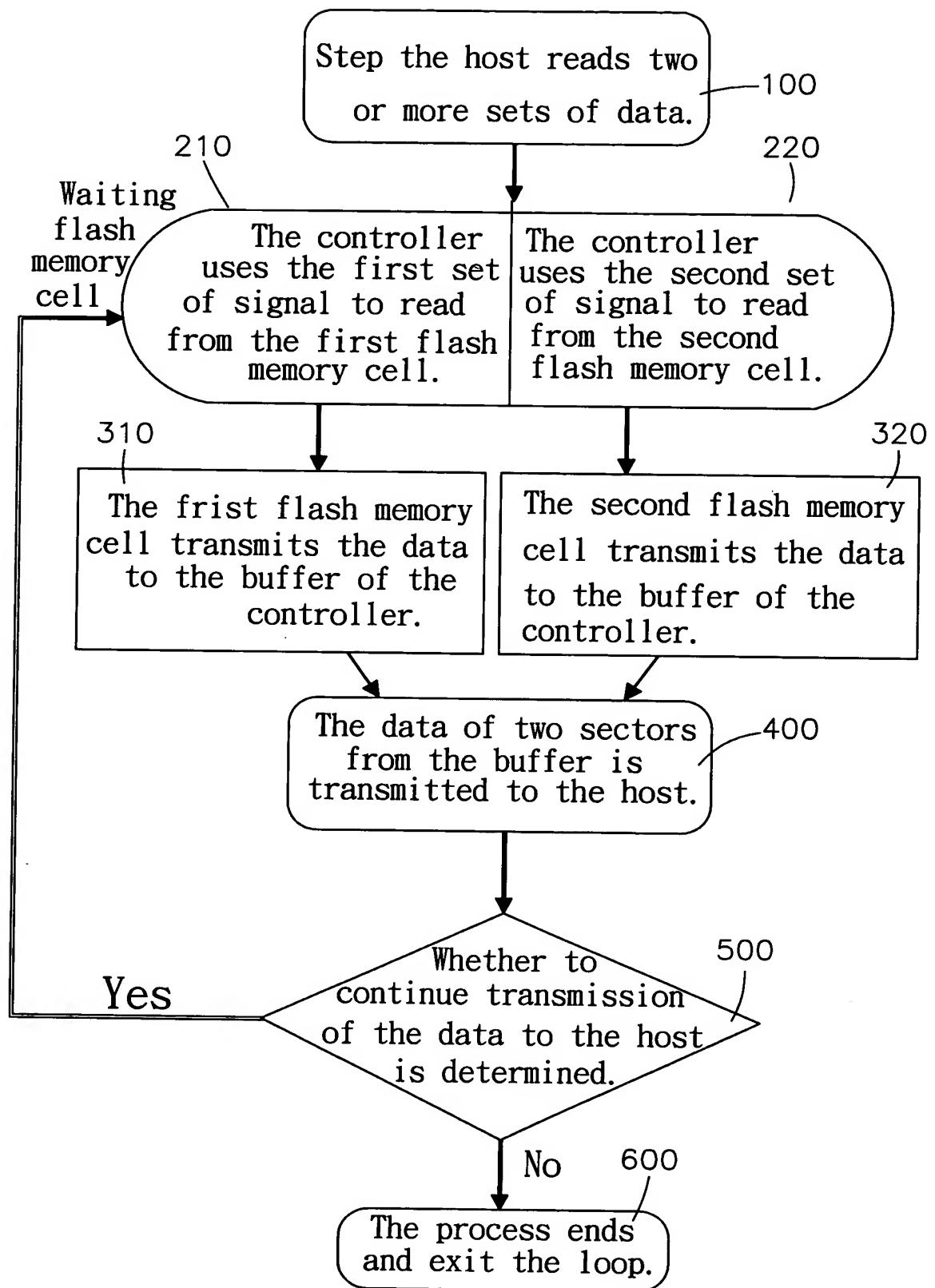
Wait until the page of the child  
block is unavailable, erase the  
mother block and replace the mother  
block completely by the child block.



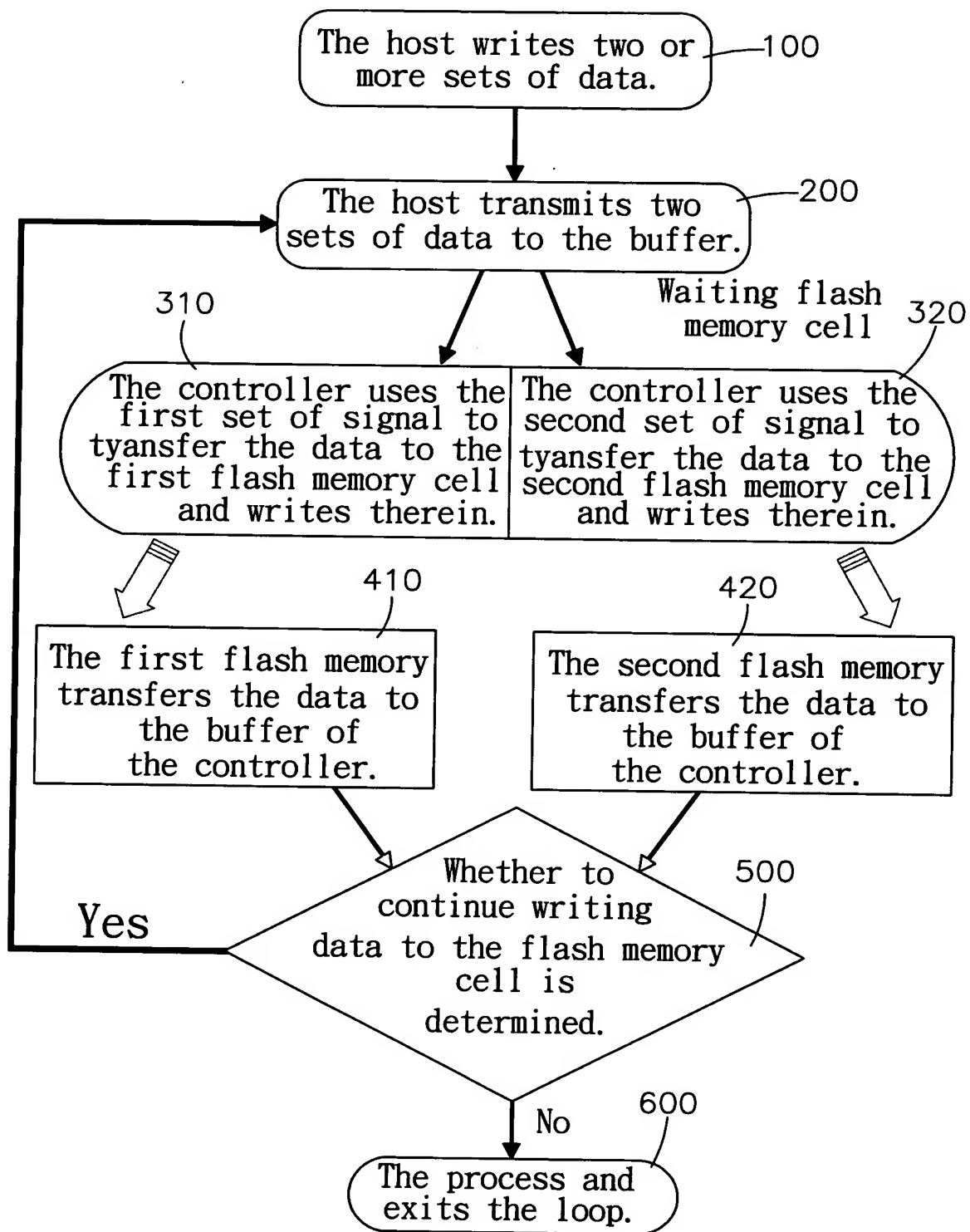
*FIG. 2G*



*FIG.3*



*FIG. 4A*



*FIG. 4B*



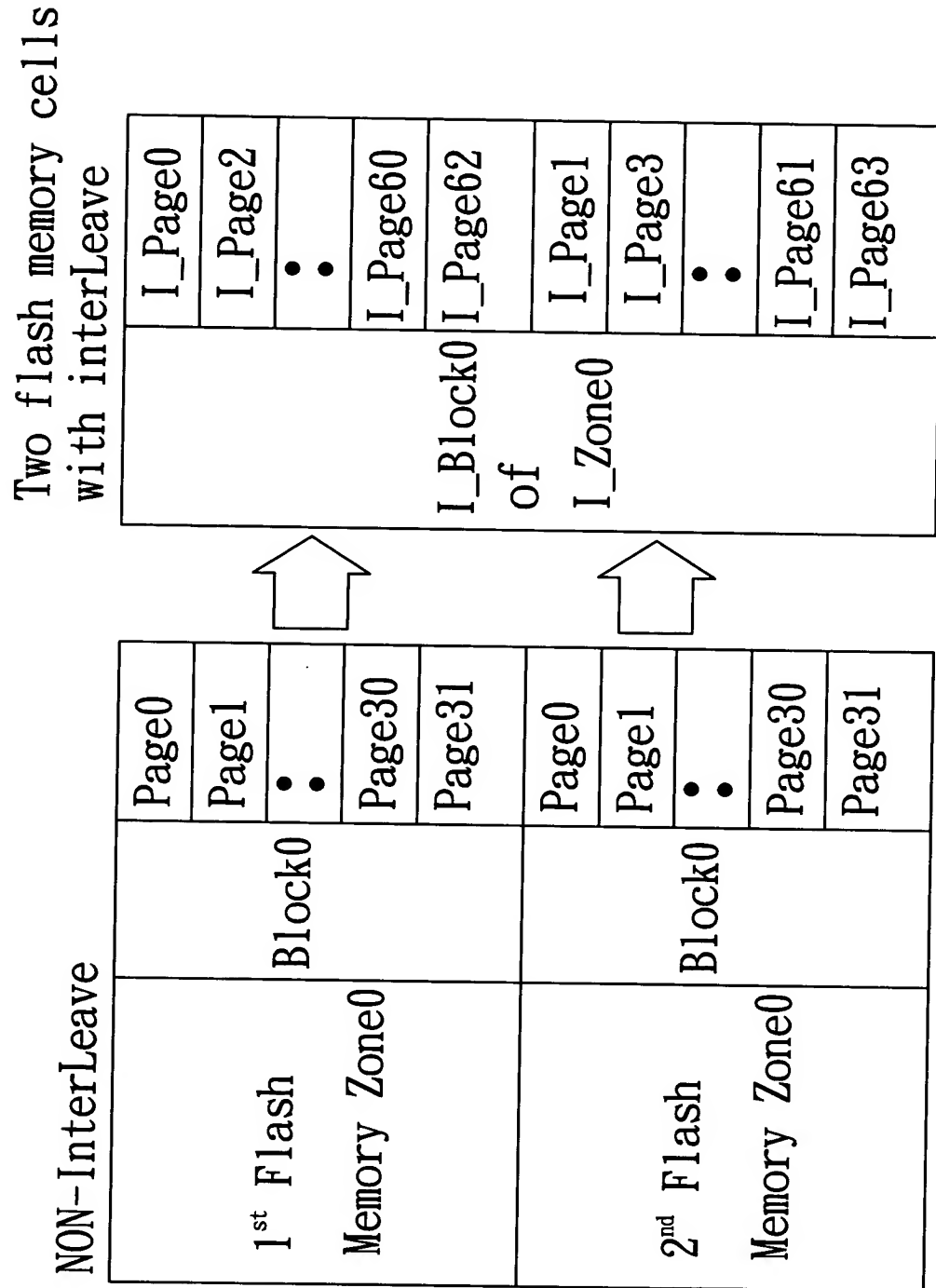
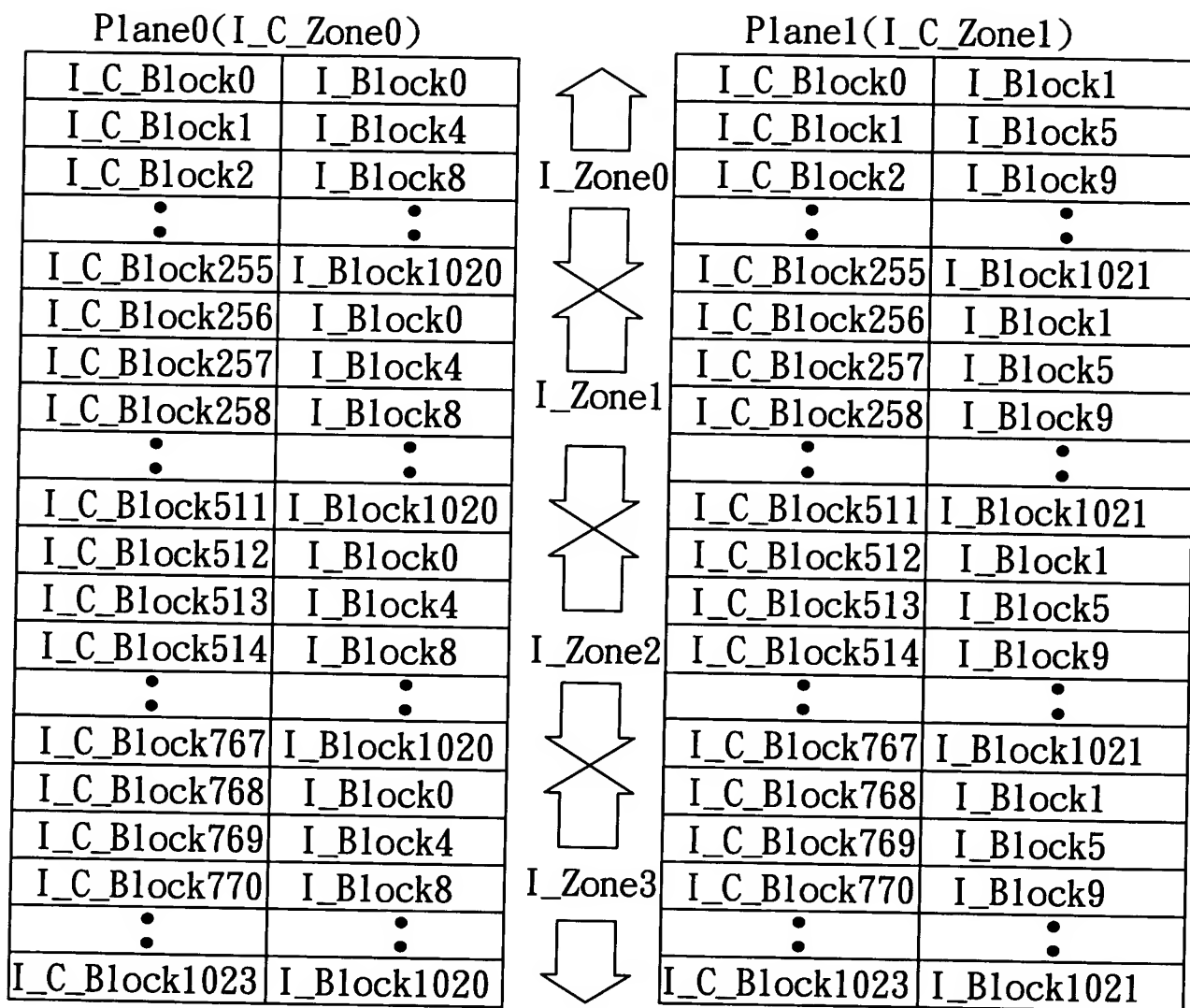


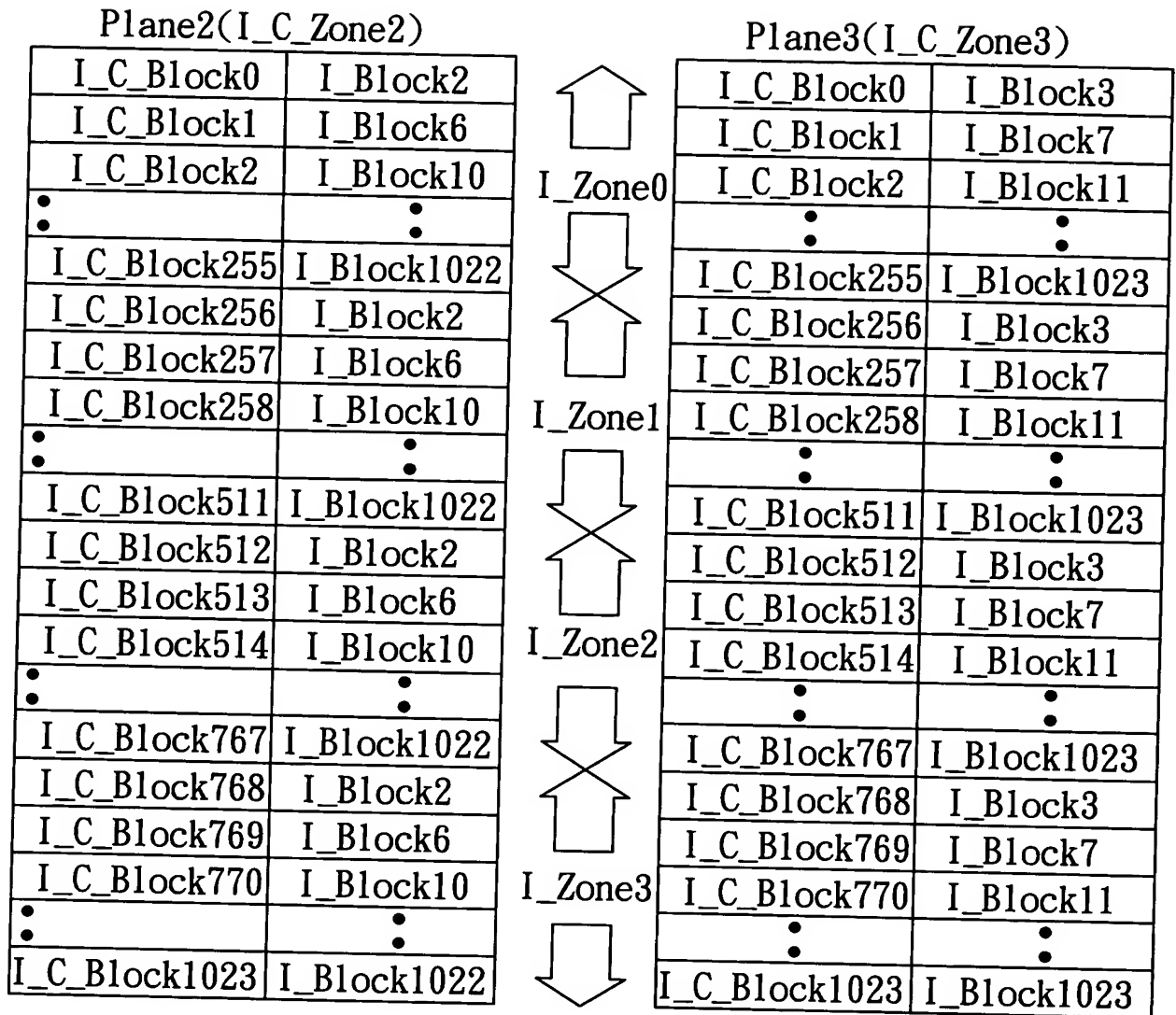
FIG.5A

I_Zone0	I_Zone1	I_Zone2	I_Zone3
I_Block0	I_Block0	I_Block0	I_Block0
I_Block1	I_Block1	I_Block1	I_Block1
I_Block2	I_Block2	I_Block2	I_Block2
I_Block3	I_Block3	I_Block3	I_Block3
I_Block4	I_Block4	I_Block4	I_Block4
I_Block5	I_Block5	I_Block5	I_Block5
I_Block6	I_Block6	I_Block6	I_Block6
I_Block7	I_Block7	I_Block7	I_Block7
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
I_Block1016	I_Block1016	I_Block1016	I_Block1016
I_Block1017	I_Block1017	I_Block1017	I_Block1017
I_Block1018	I_Block1018	I_Block1018	I_Block1018
I_Block1019	I_Block1019	I_Block1019	I_Block1019
I_Block1020	I_Block1020	I_Block1020	I_Block1020
I_Block1021	I_Block1021	I_Block1021	I_Block1021
I_Block1022	I_Block1022	I_Block1022	I_Block1022
I_Block1023	I_Block1023	I_Block1023	I_Block1023

*FIG.5B*



*FIG. 6A*



*FIG. 6B*

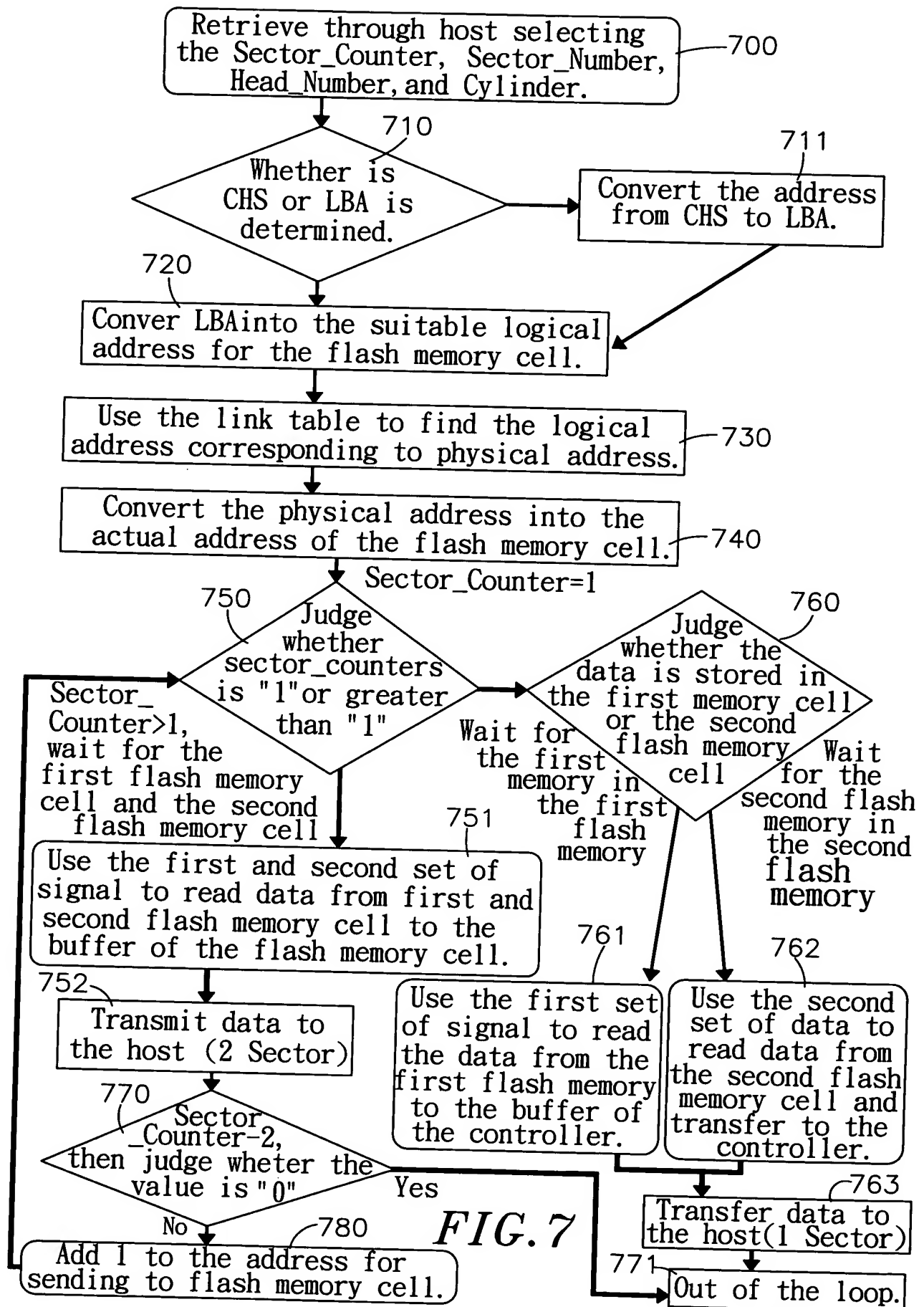


FIG. 7

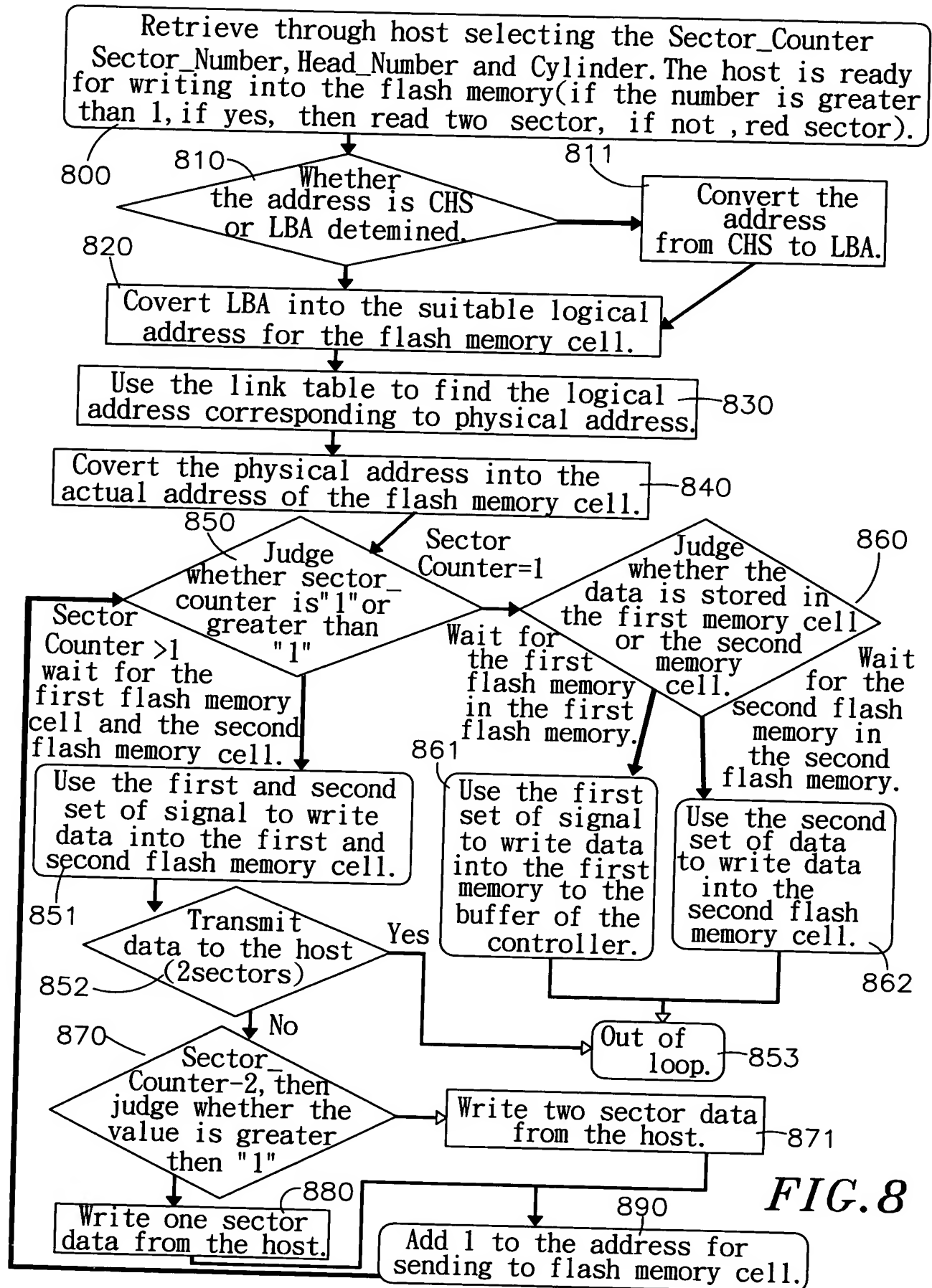


FIG. 8